

REMARKS

Claims 43-80 are currently pending in the application. Claims 43-45, 54, 63, and 66 are currently **amended**. The amendments to the claims find support throughout the specification and drawings as originally filed, and particularly at page 22, line 30 through page 23, line 7. No new matter is added.

Rejection of Claims 43-45, 47-64, 66, 68, and 70-80 Under 35 U.S.C. §112, First Paragraph

Written Description

The Office Action rejects claims 43-45, 47-64, 66, 68, and 70-80 under 35 U.S.C. §112, first paragraph as containing subject matter which is not described in the specification in such a way as to reasonably convey to one of skill in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Office Action rejects claims 45, 54-62, 64, and 66-80 for the recitation of the phrase “a part of” because the phrase is not defined in the specification and would, given its broadest reasonable interpretation, read on any promoter comprising a fusion of any single nucleotide found in the sequence set forth as SEQ ID NO: 1 with any single nucleotide found in the sequence set forth as SEQ ID NO: 2; that is, the claim “encompasses all promoter nucleic acid sequences”.

The Office Action also asserts that the rejected claims recite that the promoter nucleic acid sequences are “derived from” either CoYMV or CsVMV virus, and thus are not sufficiently described because the materials may be derivitized infinitely (by, for example, substitutions, deletions, additions, mutations, or fragmentation) to attain promoters which are not described in the specification. The Office Action asserts that the specification only describes a chimeric promoter wherein the vascular expression promoter from CoYMV is replaced with the green tissue promoter region from CsVMV.

Applicants submit that, while not acquiescing to the rejections set forth in the Office Action, and for the sole purpose of advancing the prosecution of the present application, they

have amended claims 43-45, 54, 63 to delete reference to promoter sequences which are “derived from” either CoYMV or Cs MV virus promoters. The claims make clear that the invention relates to chimeric expression promoters and expression cassettes which comprise “at least one nucleic acid sequence comprising a Commelina Yellow Mottle Virus plant promoter wherein a plant vascular expression promoter region of said Commelina Yellow Mottle Virus plant promoter is replaced with a nucleic acid sequence comprising a Cassava Vein Mosaic Virus plant promoter comprising a plant green tissue expression promoter region”. Support for this claim amendment may be found throughout the specification and at least at page 22, line 30 through page 23, line 7, wherein the specification teaches the sequence regions of each of the CoYMV and CsVMV promoter regions which are responsible for vascular expression and green tissue expression, respectively.

With respect to claims 45, 54-62, 64, and 66-80, Applicants submit that the phrase “a part of” has been removed from all the claims. The claims have been amended to recite “the nucleic acid sequence of SEQ ID NO: 1, but not including a plant vascular expression promoter region of said SEQ ID NO: 1, fused to a nucleic acid sequence comprising a plant green tissue expression promoter region of SEQ ID NO: 2” Applicants submit that support for this amendment is found throughout the specification and at least at page 22, line 30 to page 23, line 7, which teaches:

“The 104 bp sequence of CsVMV stretching from position –221 bp to position –116 bp (as referenced by the start point of initiation of transcription +1), bears 4 “endosperm like” boxes, four “GTAA” elements specific to expression in green tissues, and an as-1 type element, and is responsible for the expression in vascular tissues. The 76 bp region of CoYMV (stretching from position –160 to position –84 bp as identified in the sequence listing under the number SEQ. ID01), is responsible for the expression in vascular tissues.

The promoter MPr1116, as schematically illustrated in Figure IV, was created by fusing the sequence of 104 bp of the promoter from the intergenic region of the CsVMV gene, identified in the sequence listing under SEQ. ID02, to the CoYMV sequence deleted of its 76 bp region, using the lb-PCR technique.”

Given the description in the specification, Applicants submit that the specification provides written description for a sequence comprising a fusion of CoYMV not including a plant vascular

expression promoter region fused to a sequence comprising a plant green tissue expression promoter region of CsVMV.

The instant claims are limited to chimeric promoters (vectors, transgenic plants, expression cassettes, and methods) which originates from a Commelina Yellow Mottle Virus wherein the plant vascular expression promoter region is replaced with a plant green tissue expression promoter region derived from Cassava Vein Mosaic Virus and are sufficiently supported by the specification. For example, Example 2, beginning on page 21, discloses 12 different species of chimeric promoters which are included in the claimed genus, and 19 different species of binary vectors which are also encompassed in the claimed genus. Thus, the specification discloses a representative number of species of the claimed invention to satisfy the written description requirement. If this number of chimeric promoters and binary vectors does not satisfy the Written Description requirement, Applicants respectfully request the Examiner's rationale as to what specific number would be necessary to satisfy the Written Description requirement. Applicants accordingly submit that one of skill in the art would have recognized that Applicants were in possession of the claimed invention.

Applicants submit that all claims find support in the specification and comport with the written description requirement of 35 U.S.C. §112, first paragraph. Accordingly, Applicants request that the rejection be reconsidered and withdrawn.

Enablement

The Office Action also rejects the claims under 35 U.S.C. §112, first paragraph for lack of enablement. The Office Action asserts that the specification, while being enabling for a chimeric promoter wherein the vascular expression promoter from CoYMV is replaced with the green tissue promoter region from CsVMV, does not provide enablement for all chimeric promoters wherein a "derivative of" the vascular expression promoter from CoYMV is replaced with a "derivative of" the green tissue promoter from CsVMV. As noted above, Applicants have amended the instant claims to remove reference to sequences "derived from" either the vascular expression promoter of CoYMV or the green tissue promoter of CsVMV.

Applicants thus submit that the claims as amended are enabled by the present specification. The specification provides 12 different species of chimeric promoters which are included in the claimed invention, and 19 different species of binary vectors which are also encompassed in the claimed invention. The specification teaches at pages 21-47 how to construct the claimed chimeric promoters and expression vectors. Pages 48-60 of the specification teaches methods for determining the expression of the claimed chimeric promoter, and provides working examples demonstrating the expression of the claimed promoters. Thus, the specification teaches how to make the claimed invention, how to use the claimed promoters to drive expression in plants, and how to test whether a promoter which would fall under the claims of the invention would be operable in a plant. Accordingly, Applicants submit that the specification provides sufficient teachings to enable one of ordinary skill in the art to make and use the claimed invention without undue experimentation. Applicants thus request that the rejection be reconsidered and withdrawn.

Rejection of Claims 50 and 51 Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 50 and 51 as being indefinite in referring to a “CT promoter element”, noting that no definition of a CT promoter element can be found in the disclosure.

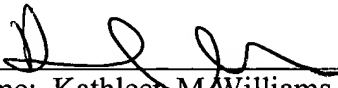
Applicants submit that the recitation of a “CT promoter element” in claims 50 and 51 is a typographical error, and that the claims have been amended to recite correctly a “GT promoter element”. Applicants thus request that the rejection be reconsidered and withdrawn.

Conclusion

Applicant submits that all claims are allowable as written and respectfully request early favorable action by the Examiner. If the Examiner believes that a telephone conversation with Applicant's attorney would expedite prosecution of this application, the Examiner is cordially invited to call the undersigned attorney for Applicant.

Respectfully submitted,

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Name: Kathleen M. Williams
Registration No.: 34,614
Palmer & Dodge LLP
111 Huntington Avenue
Boston, MA 02199-7613
Tel. (617) 239-0100